

The Night Sky

Earth Farthest from Sun in July

Although some may mistakenly believe it is the Earth's distance from the Sun that creates the seasons, we are actually farthest from the Sun in early July during summer. This year, the Earth reaches the point when it is most distant from the Sun, the aphelion of its orbit, on July 5. The Earth is approximately three million miles farther from the Sun in summer than it is in winter so what is the real cause of our seasons? The main cause of seasons is the tilt of the Earth's rotation axis. The northern hemisphere tilts toward the Sun during summer resulting in more direct sunlight at the surface and longer days while the opposite is true during our winter season. However, being farther from the Sun does affect the length of the seasons. The Earth moves slower in its orbit when farthest from the Sun and faster when closest to the Sun. Thus, the summer season is always several days longer than the winter season for the northern hemisphere. Since the axis tilt is opposite for the southern hemisphere, the seasons there behave just the opposite of those for the northern hemisphere.

As it was during June, Saturn remains the only planet easily visible throughout the evening. It is visible high in the south as twilight falls all month and does not set until well after midnight. Mercury is now lost in the glare of the Sun, but Venus remains visible as the evening star. However, it is very low in the western sky and difficult to see without a flat western horizon. Mars will lead Jupiter in the pre-dawn sky rising in the east-northeast. Neither will be easily visible to the naked eye until the end of the month. If your eastern horizon is very flat, however, you may be able to see the waning crescent moon near Mars and Jupiter just before sunrise on the morning of July 6.

The full moon this month falls on July 22 at 2:16 p.m. EDT. It will not be a "supermoon" as it was in June, but according to the Farmer's Almanac it is named the Buck Moon since July is when buck deer typically start their new antler growth. The July full moon is also known as the Thunder Moon because of the numerous thunderstorms at this time of year.

The ETSU Powell Observatory open houses are on hiatus for the summer. They will resume in the fall.

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